CASE NO.: ARC920010090US1

Serial No.: 10/042,652 March 31, 2008

Page 2

PATENT Filed: January 8, 2002

- 1, 2 (canceled).
- 3. The method of Claim 17, wherein the combination is a hash function (currently amended) of a concatenation of the channel key Ke and session key Ks.
 - 4-6 (canceled).
- 7. (currently amended) The method of Claim [[6]] 17, wherein at least one of the providing acts is undertaken in a point-to-point communication.
- 8. (currently amended) The method of Claim [[6]] 17, wherein at least one of the providing acts is undertaken as part of a broadcast.
 - 9-11 (canceled).
- 12. (currently amended) The method of Claim 1[[0]]7, comprising selectively updating the session key block.
- 13. (original) The method of Claim 12, comprising updating the session key block by encrypting an updated session key with at least the encryption scheme B^R_{st}.
 - 14. (canceled).

1053-130,AM1

CASE NO.: ARC920010090U81

Serial No.: 10/042,652

March 31, 2008

Page 3

PATENT Filed: January 8, 2002

15. (currently amended)

The method of Claim 1[[4]]7, wherein the new channel key Kc' is sent

in a message that is split.

16. (currently amended)

The method of Claim 1[[4]]7, wherein the new channel key Ka' is

refreshed using plural messages.

17. (currently amended)

The method of Claim 14, A computer-implemented method for

securely transmitting multicast data, comprising:

encrypting at least one title T with at least title key Kr; and

encrypting the title key K_T with at least one channel unique key K_m using at least one

encryption function S to render a multicast data channel encrypted as S_{Keu}(K_T), S_{KT}(T), wherein the

channel-unique key K_{cn} is the result of a combination of a channel key K_c and a session_key K_n.

wherein the session key K, is encrypted with at least a first encryption scheme B^R, to render a session

o B a to remain a good on

key block, further comprising providing at least one player with device keys Ka to activate the player

and providing the player with the channel key K, and the session key block, wherein the player can

determine the session key K, from the session key block using the device keys K, further comprising

periodically refreshing the channel key K, to enforce subscriptions, wherein a new channel key K,

is encrypted with at least a second encryption scheme BR and wherein the encryption scheme BR

includes:

assigning each player in a group of players respective private information I,;

1053-130.AMI

4

CASE NO.: ARC920010090 US1

Serial No.: 10/042,652

March 31, 2008

Page 4

PATENT Filed: January 8, 2002

partitioning players not in a revoked set R into disjoint subsets S₁₁,...S_{1m} having associated

subset keys Lii,...Lin; and

encrypting the session key K_s with the subset keys L_{tt} ,..., L_{tm} to render m encrypted versions

of the session key K_s.

18. (original) The method of Claim 17, wherein the encryption scheme B^{R}_{x2} further includes

partitioning the players into groups S1,...,Sw, wherein "w" is an integer, and the groups establish

subtrees in a tree.

19. (original) The method of Claim 18, wherein the tree includes a root and plural nodes, each node

having at least one associated label, and wherein each subset includes all leaves in a subtree rooted at some

node v_i that are not in the subtree rooted at some other node v_j that descends from v_i .

20. (original) The method of Claim 19, wherein the revoked set R defines a spanning tree, and

wherein the method includes:

initializing a cover tree T as the spanning tree;

iteratively removing nodes from the cover tree T and adding nodes to a cover until the cover

tree T has at most one node.

130.AMI

5

CASE NO.: ARC920010090US1

Serial No.: 10/042,652

March 31, 2008

Page 5

PATENT

Filed: January 8, 2002

21. (original) The method of Claim 19, wherein each node has at least one label possibly induced

by at least one of its ancestors, and wherein each player is assigned labels from all nodes hanging from a

direct path between the player and the root but not from nodes in the direct path.

22. (original) The method of Claim 21, wherein labels are assigned to subsets using a pseudorandom

sequence generator, and the act of decrypting includes evaluating the pseudorandom sequence generator.

23-40 (canceled).

41. (currently amended) A computer-implemented player for decrypting streamed content,

comprising:

at least one device key K_d; wherein the player means for decryptsing a session key K, using

the device key K_d ; wherein the player also means for decryptsing a channel unique key K_{ea} using at

least the session key K, and the player further means for deriving a title key K, using at least the

channel unique key K, the title key K, being useful for decrypting content.

42. (original) The player of Claim 41, wherein the content is multicast to the player.

43. (currently amended) The player of Claim 42, wherein the player includes-means for

receivesing streamed content, and the content is streamed to the player.

44. (currently amended)

A computer program device, comprising:

I053-130.AMI

CASE NO.: ARC920010090 US1

Serial No.: 10/042,652

March 31, 2008

Page 6

PATENT Filed: January 8, 2002

a computer program storage device including a program of instructions usable by a computer to undertake logic comprising:

logic means for receiving private information I_u upon registration with a content provider;

logic means for subscribing to at least one content channel provided by the content provider;

logic means for receiving at least one encrypted channel key K_c at least partially in response to subscribing to the channel;

logic means for deriving the channel key K_c using the information I_u; and logic means for using at least the channel key K_c to decrypt content streamed over the channel.

45. (currently amended) The computer program device of Claim 44, the logic further comprising:

plural device keys Kar

logic means for receiving at least one session key block;

logic means for deriving at least one session key K_s from the session key block using at least one of plural device keys K_d .

46. (currently amended) The computer program device of Claim 45, the logic further comprising:

logic means for using the session key K_a and channel key K_c to derive a channel unique key K_{cc} ; and

1053-130.AMI

CASE NO.: ARC920010090 US1

Serial No.: 10/042,652

March 31, 2008

Page 7

PATENT Filed: January 8, 2002

logic means-for using the channel unique key $K_{\rm cu}$ to decrypt a title key $K_{\rm T}$ useful for decrypting the content.

47, 48 (canceled).

130.AM1